

Appendix 11. Maps Showing Difference Between Kriged Prediction Surfaces

Difference between kriged prediction surfaces of constituents using the existing and reduced U.S Geological Survey aquifer water-quality monitoring network, Idaho National Laboratory and vicinity. The base map was derived from U.S. Geological Survey National Elevation Dataset 1/3 arc-second digital elevation model. Albers Equal-Area Conic projection using a central meridian of 113°W, standard parallel of 42°50'N and 44°10'N, a false easting of 200,000 meters, and the latitude of the projection's origin at 41°30'N. North American Datum of 1983



EXPLANATION

- Well in the optimized network
- ✗ Well removed from the existing network

Figures

11.1. Sodium	3
11.2. Chloride.....	5
11.3. Sulfate	7
11.4. Nitrate	9
11.5. Carbon tetrachloride	11
11.6. 1,1-Dichloroethylene	13
11.7. 1,1,1-Trichloroethane.....	15
11.8. Trichloroethylene	17
11.9. Tritium	19
11.10. Strontium-90.....	21

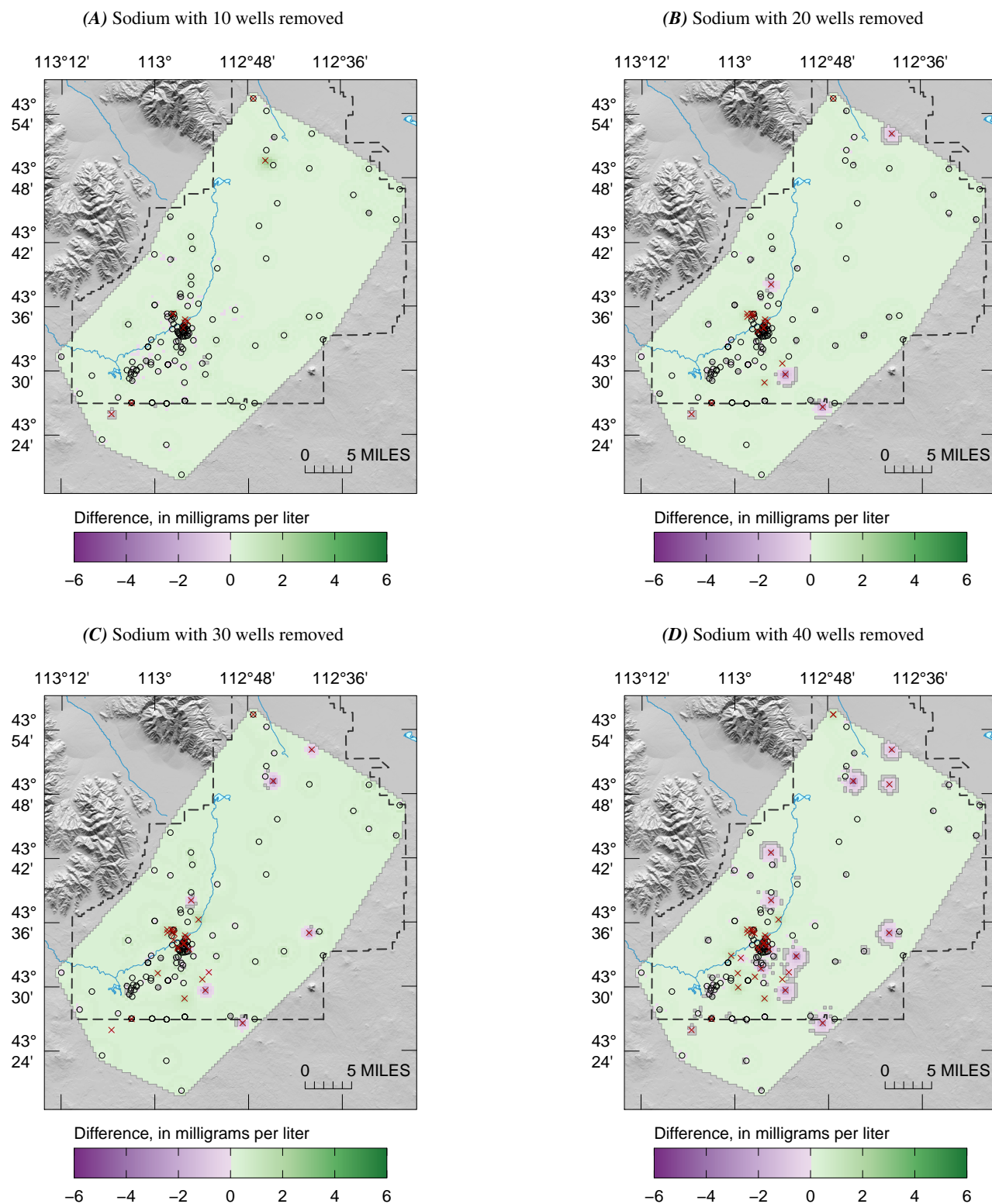


Figure 11.1. Difference between the kriged prediction surfaces of sodium using the existing and reduced monitoring network after removing (A) 10, (B) 20, (C) 30, (D) 40, and (E) 50 optimally selected wells.

4 Optimization of the Idaho National Laboratory Water-Quality Aquifer Monitoring Network

(E) Sodium with 50 wells removed

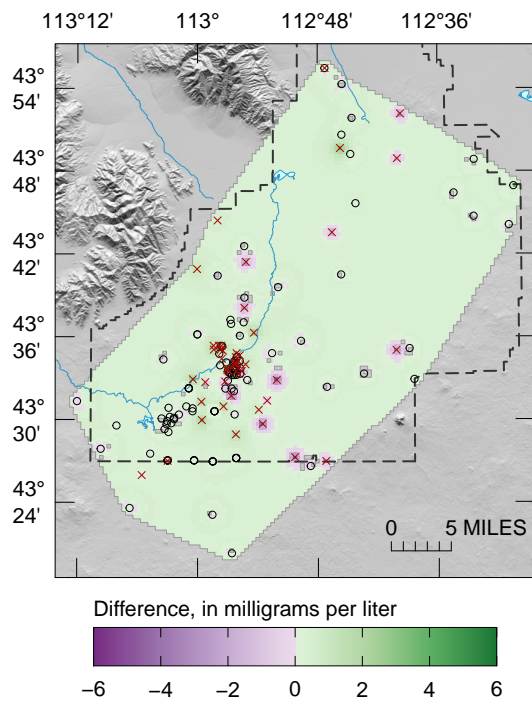


Figure 11.1. —Continued

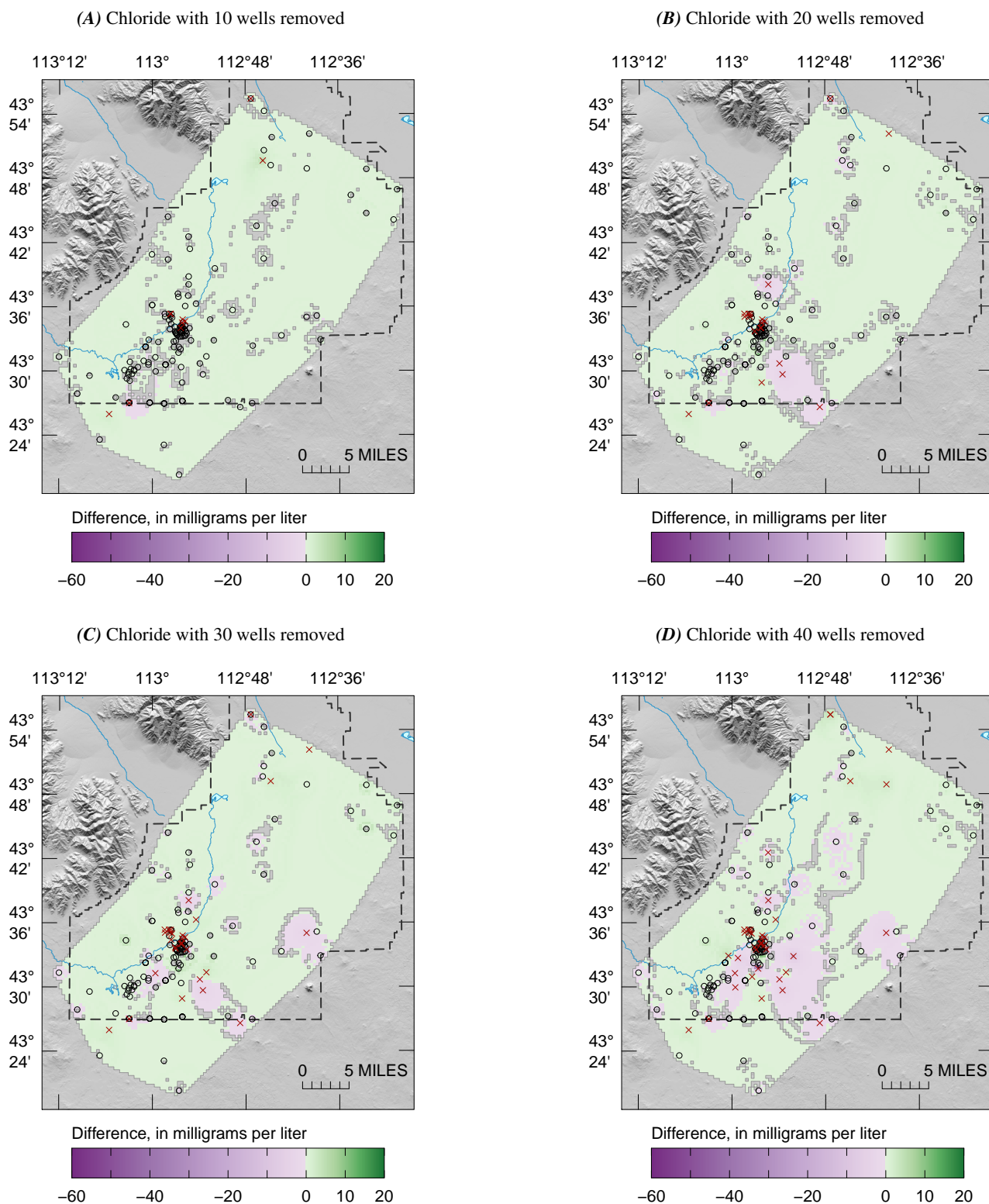


Figure 11.2. Difference between the kriged prediction surfaces of chloride using the existing and reduced monitoring network after removing (A) 10, (B) 20, (C) 30, (D) 40, and (E) 50 optimally selected wells.

6 Optimization of the Idaho National Laboratory Water-Quality Aquifer Monitoring Network

(E) Chloride with 50 wells removed

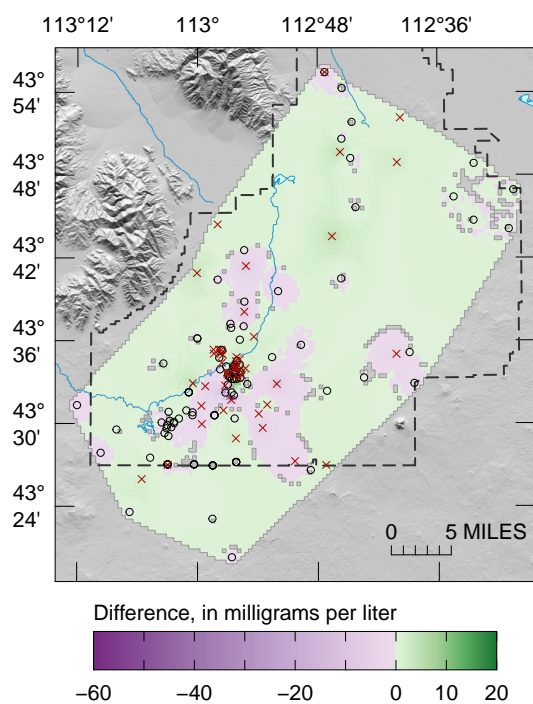


Figure 11.2. —Continued

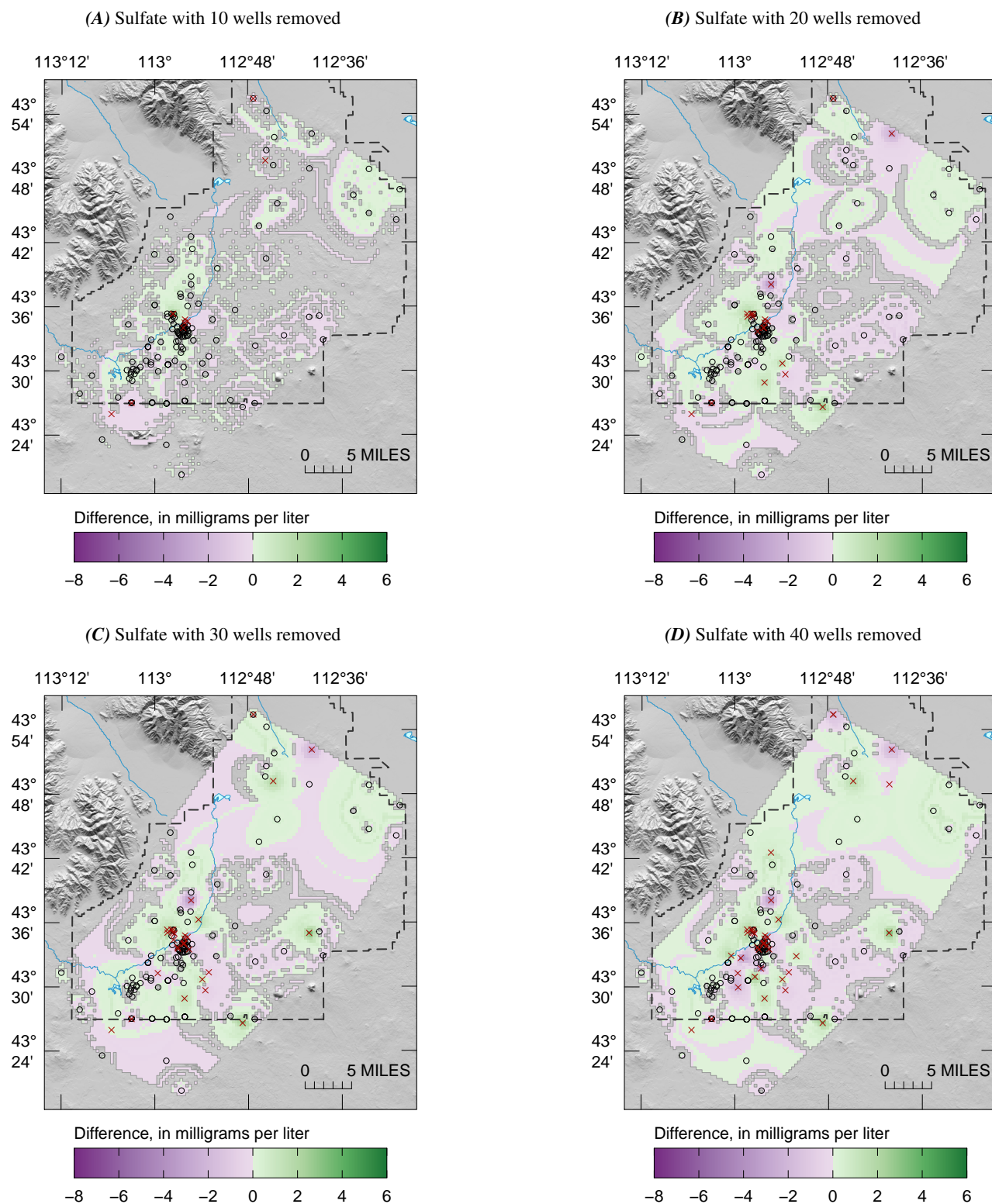


Figure 11.3. Difference between the kriged prediction surfaces of sulfate using the existing and reduced monitoring network after removing (A) 10, (B) 20, (C) 30, (D) 40, and (E) 50 optimally selected wells.

8 Optimization of the Idaho National Laboratory Water-Quality Aquifer Monitoring Network

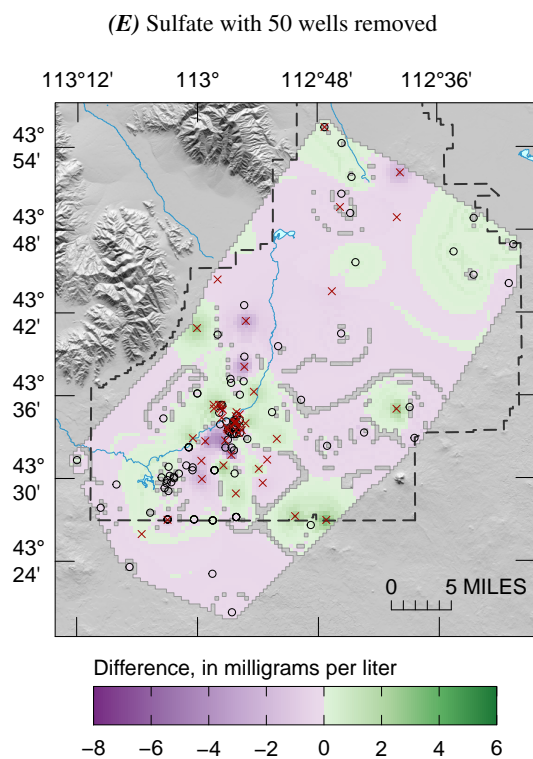


Figure 11.3. —Continued

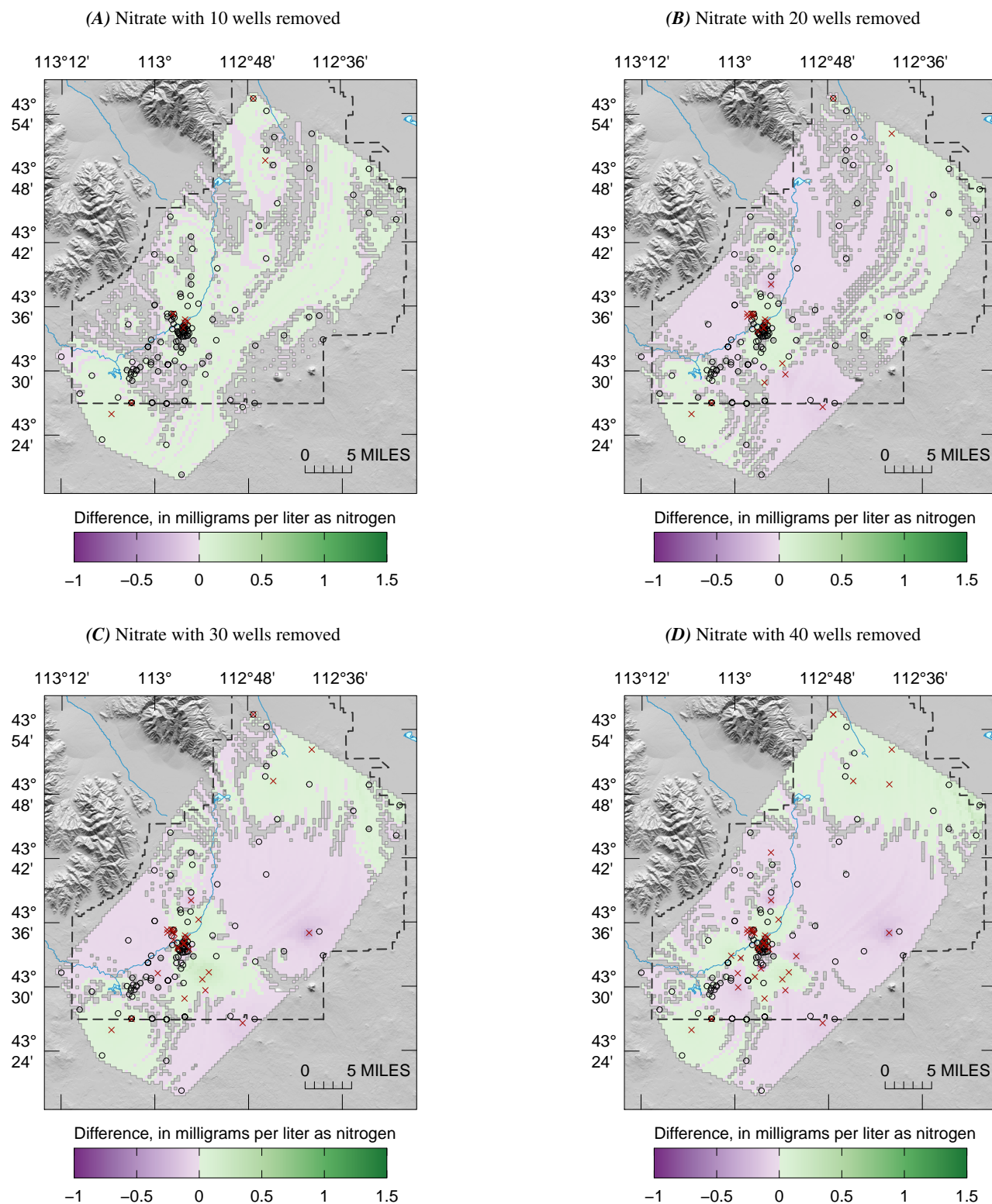


Figure 11.4. Difference between the kriged prediction surfaces of nitrate using the existing and reduced monitoring network after removing (A) 10, (B) 20, (C) 30, (D) 40, and (E) 50 optimally selected wells.

10 Optimization of the Idaho National Laboratory Water-Quality Aquifer Monitoring Network

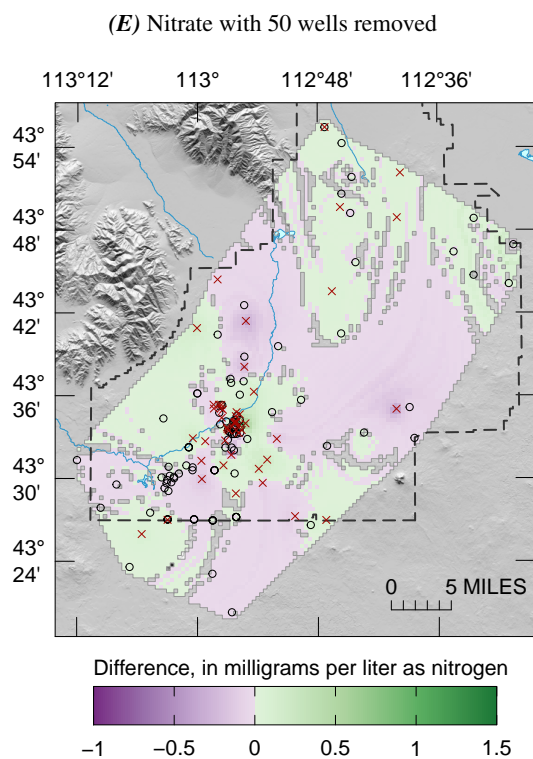
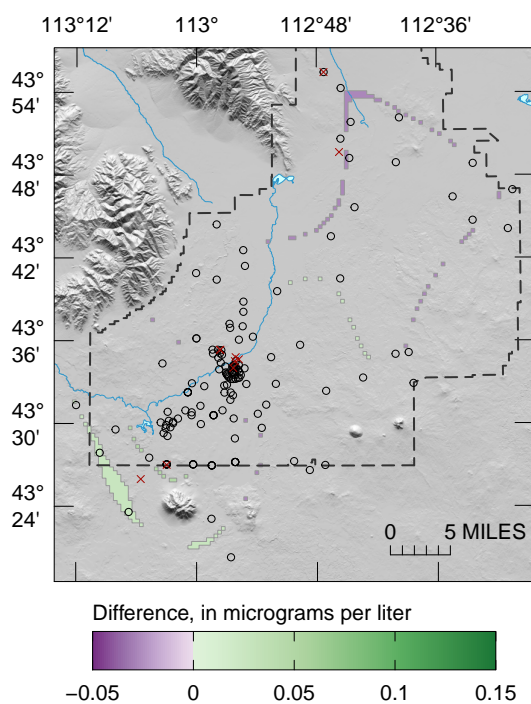
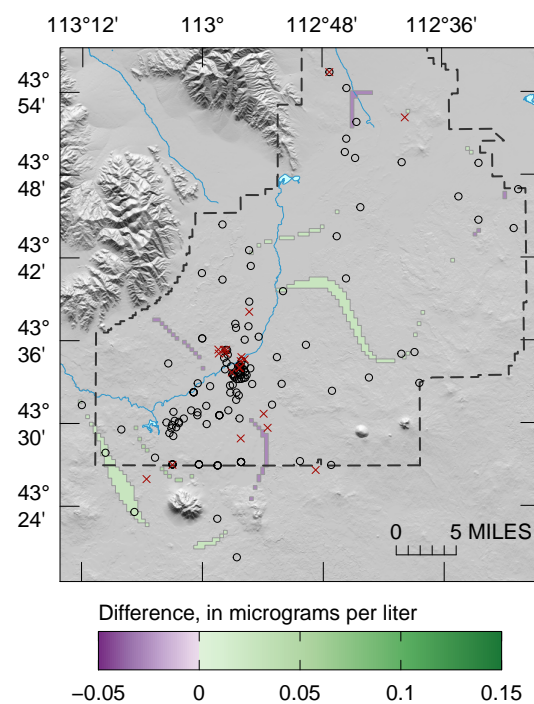


Figure 11.4. —Continued

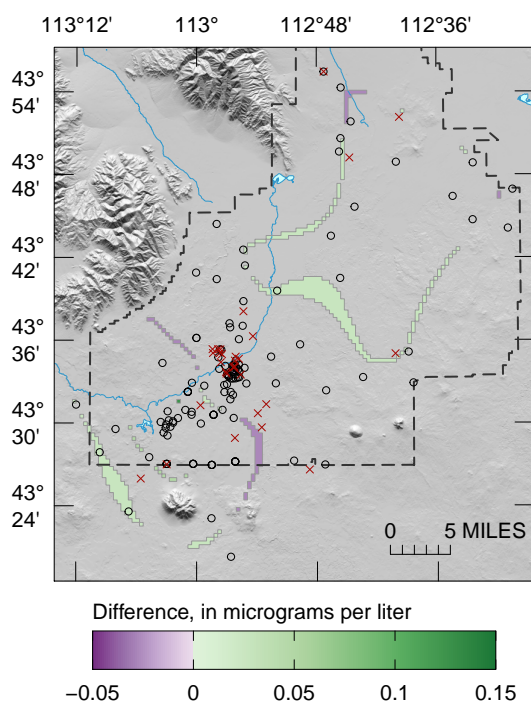
(A) Carbon tetrachloride with 10 wells removed



(B) Carbon tetrachloride with 20 wells removed



(C) Carbon tetrachloride with 30 wells removed



(D) Carbon tetrachloride with 40 wells removed

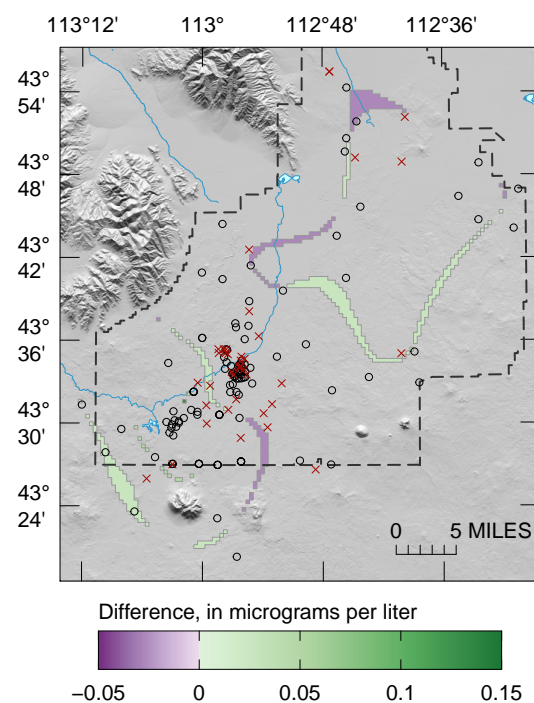


Figure 11.5. Difference between the kriged prediction surfaces of carbon tetrachloride using the existing and reduced monitoring network after removing (A) 10, (B) 20, (C) 30, (D) 40, and (E) 50 optimally selected wells.

12 Optimization of the Idaho National Laboratory Water-Quality Aquifer Monitoring Network

(E) Carbon tetrachloride with 50 wells removed

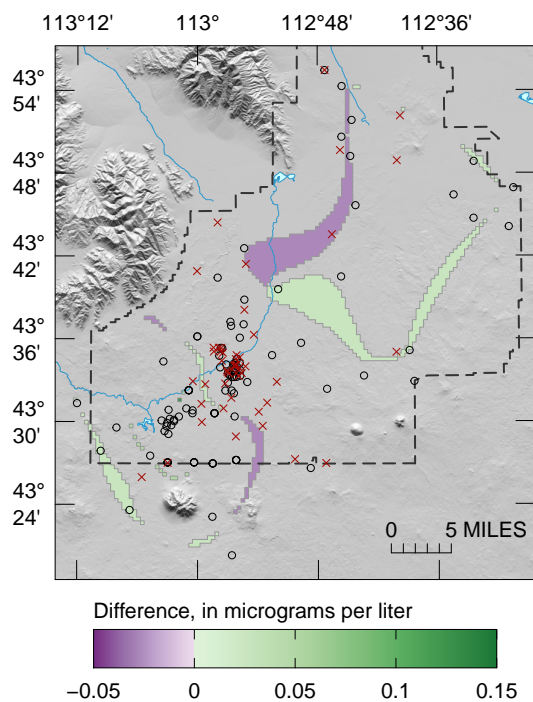
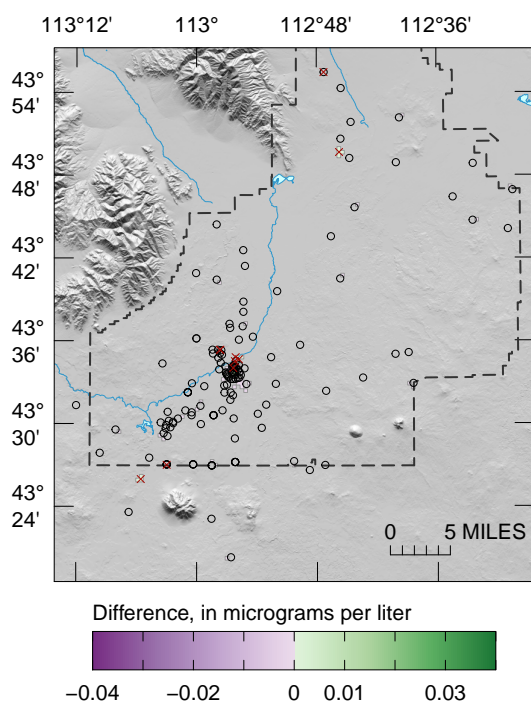
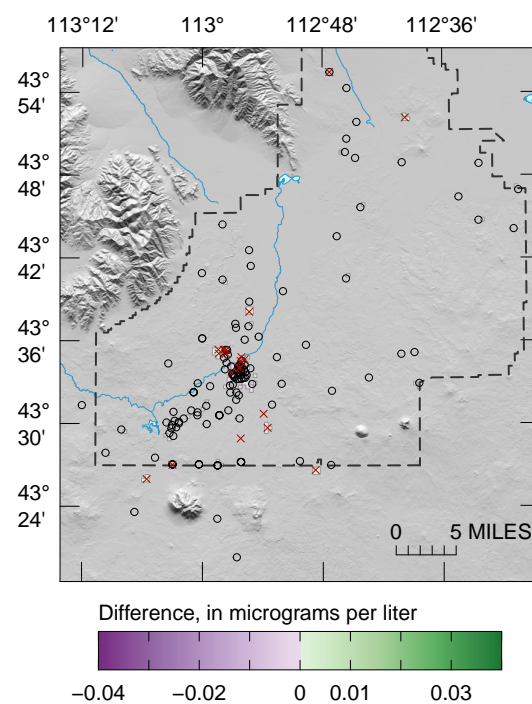


Figure 11.5. —Continued

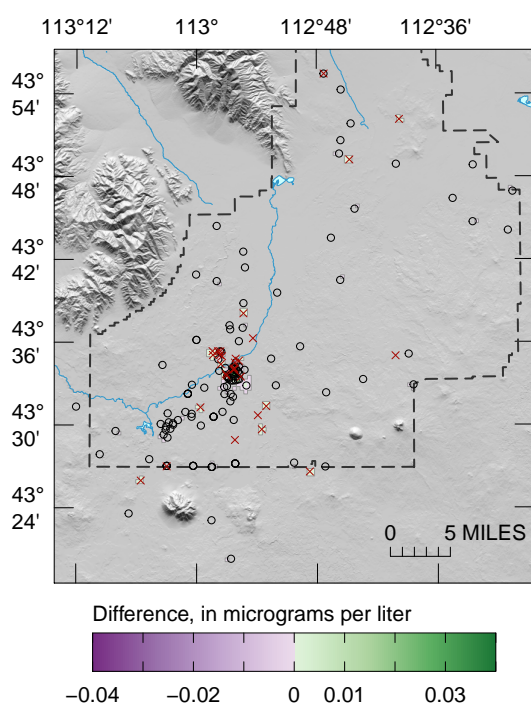
(A) 1,1-Dichloroethylene with 10 wells removed



(B) 1,1-Dichloroethylene with 20 wells removed



(C) 1,1-Dichloroethylene with 30 wells removed



(D) 1,1-Dichloroethylene with 40 wells removed

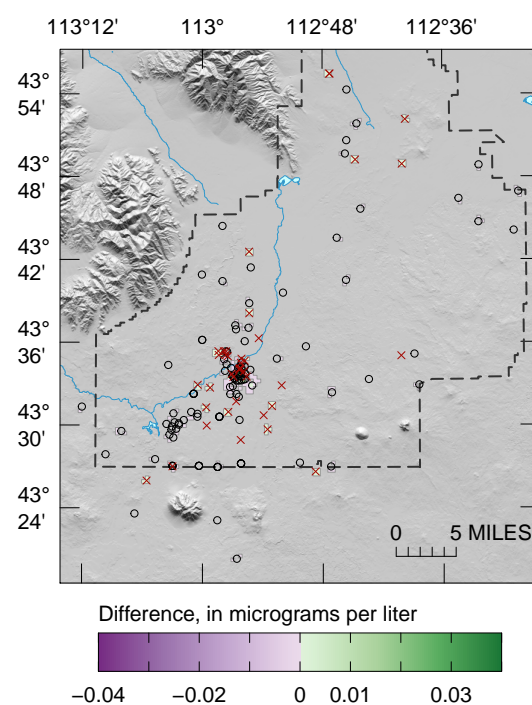


Figure 11.6. Difference between the kriged prediction surfaces of 1,1-dichloroethylene using the existing and reduced monitoring network after removing (A) 10, (B) 20, (C) 30, (D) 40, and (E) 50 optimally selected wells.

14 Optimization of the Idaho National Laboratory Water-Quality Aquifer Monitoring Network

(E) 1,1-Dichloroethylene with 50 wells removed

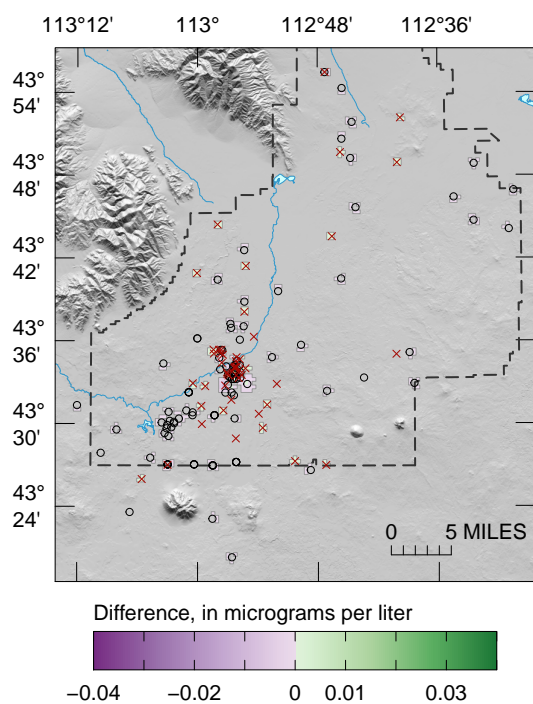
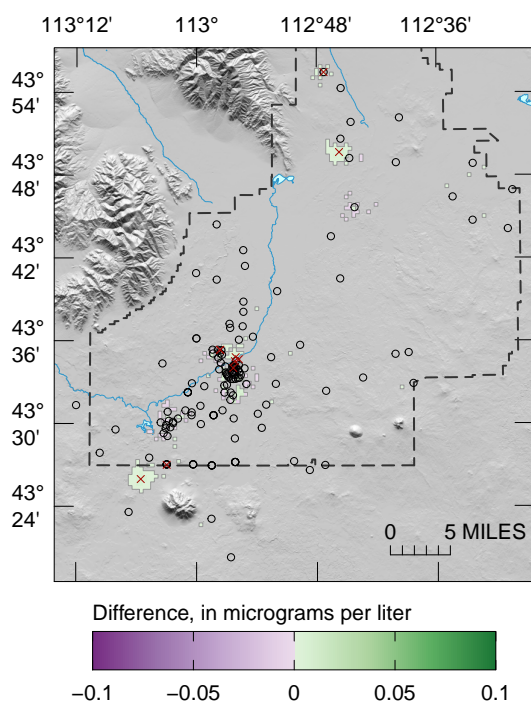
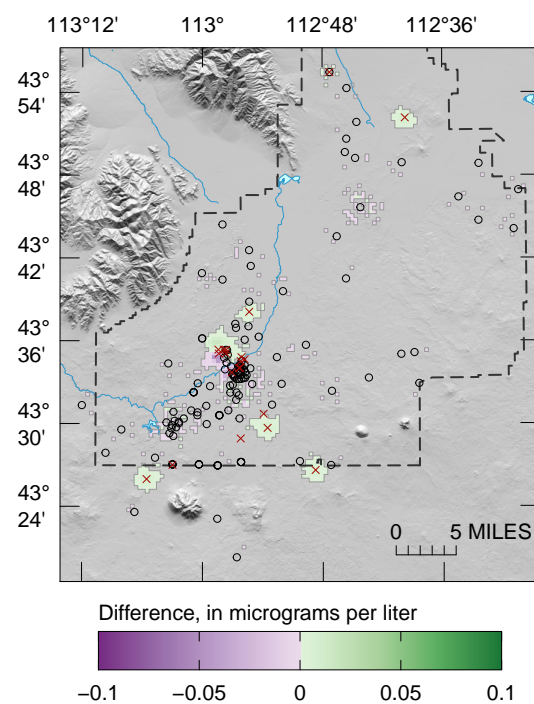


Figure 11.6. —Continued

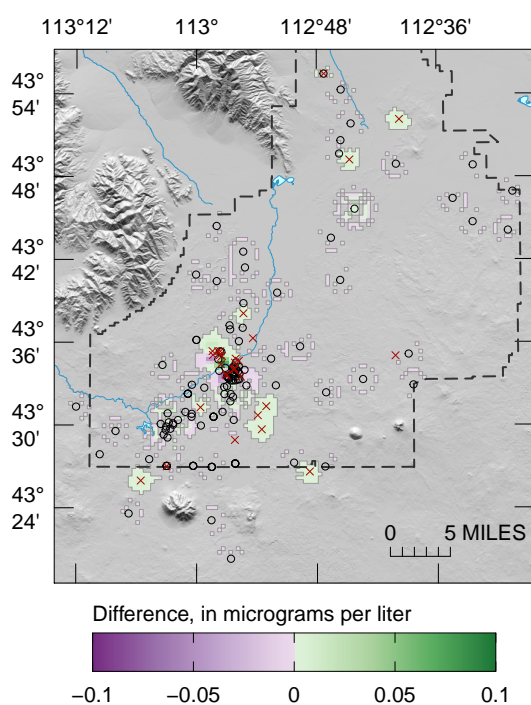
(A) 1,1,1-Trichloroethane with 10 wells removed



(B) 1,1,1-Trichloroethane with 20 wells removed



(C) 1,1,1-Trichloroethane with 30 wells removed



(D) 1,1,1-Trichloroethane with 40 wells removed

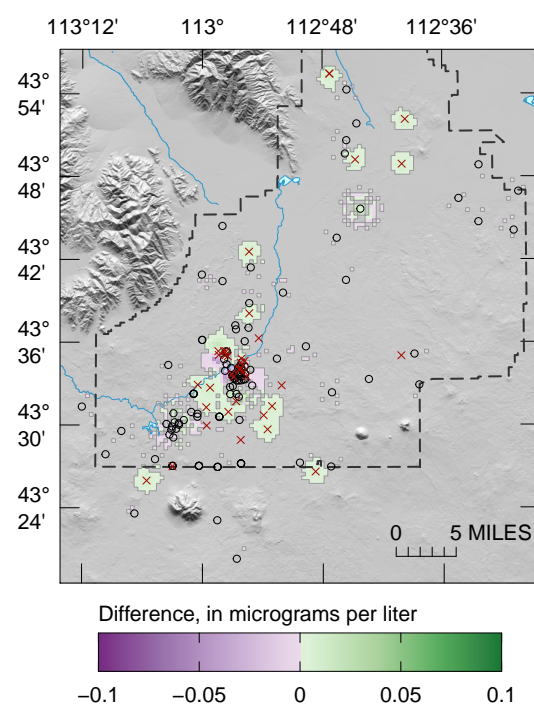


Figure 11.7. Difference between the kriged prediction surfaces of 1,1,1-trichloroethane using the existing and reduced monitoring network after removing (A) 10, (B) 20, (C) 30, (D) 40, and (E) 50 optimally selected wells.

16 Optimization of the Idaho National Laboratory Water-Quality Aquifer Monitoring Network

(E) 1,1,1-Trichloroethane with 50 wells removed

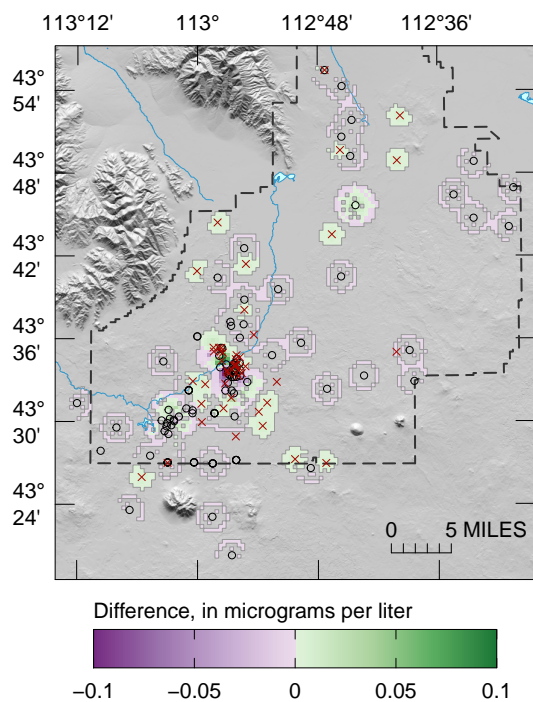
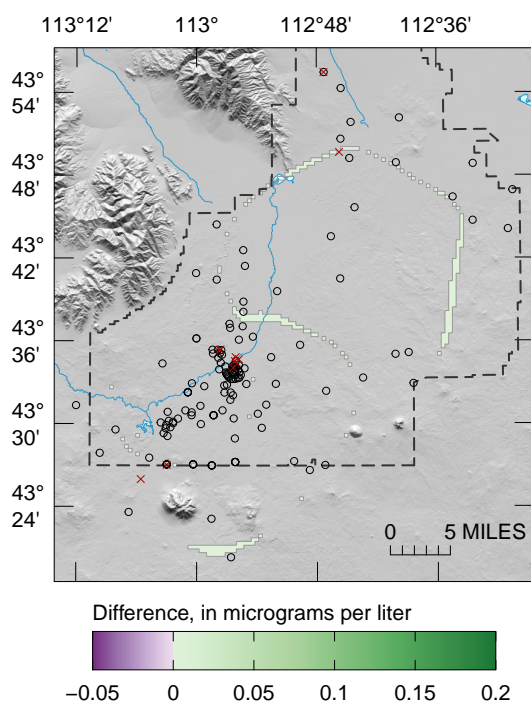
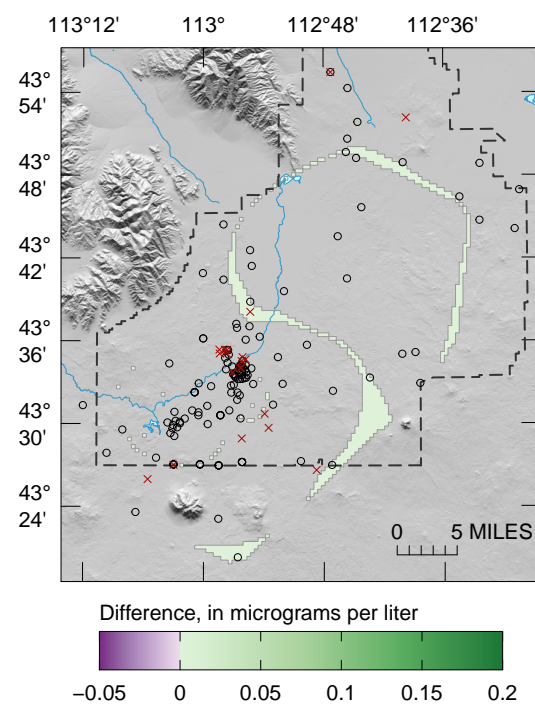


Figure 11.7. —Continued

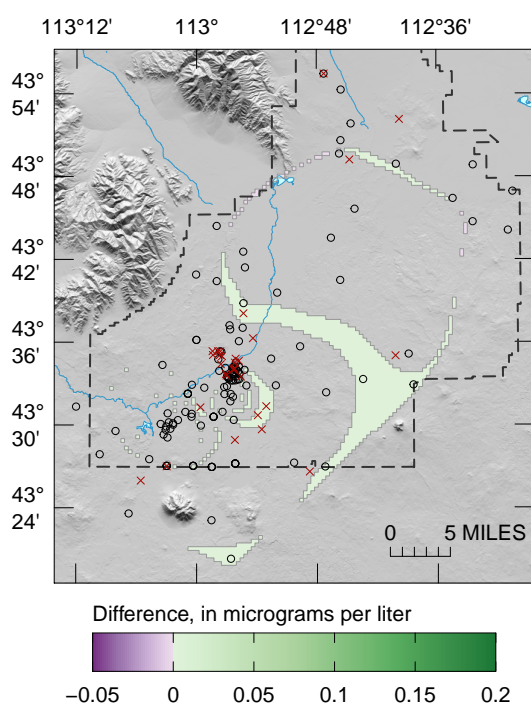
(A) Trichloroethylene with 10 wells removed



(B) Trichloroethylene with 20 wells removed



(C) Trichloroethylene with 30 wells removed



(D) Trichloroethylene with 40 wells removed

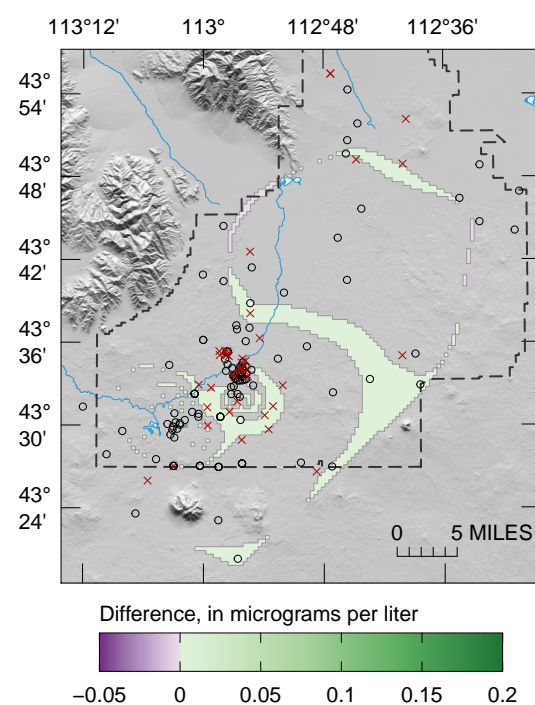


Figure 11.8. Difference between the kriged prediction surfaces of trichloroethylene using the existing and reduced monitoring network after removing (A) 10, (B) 20, (C) 30, (D) 40, and (E) 50 optimally selected wells.

(E) Trichloroethylene with 50 wells removed

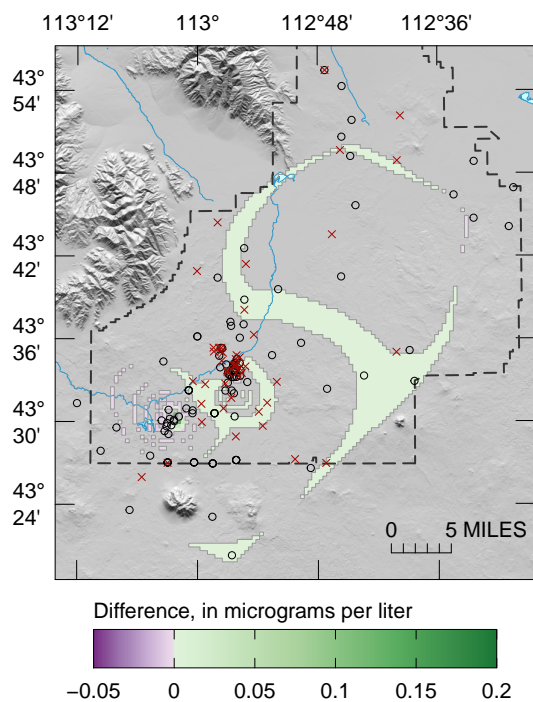


Figure 11.8. —Continued

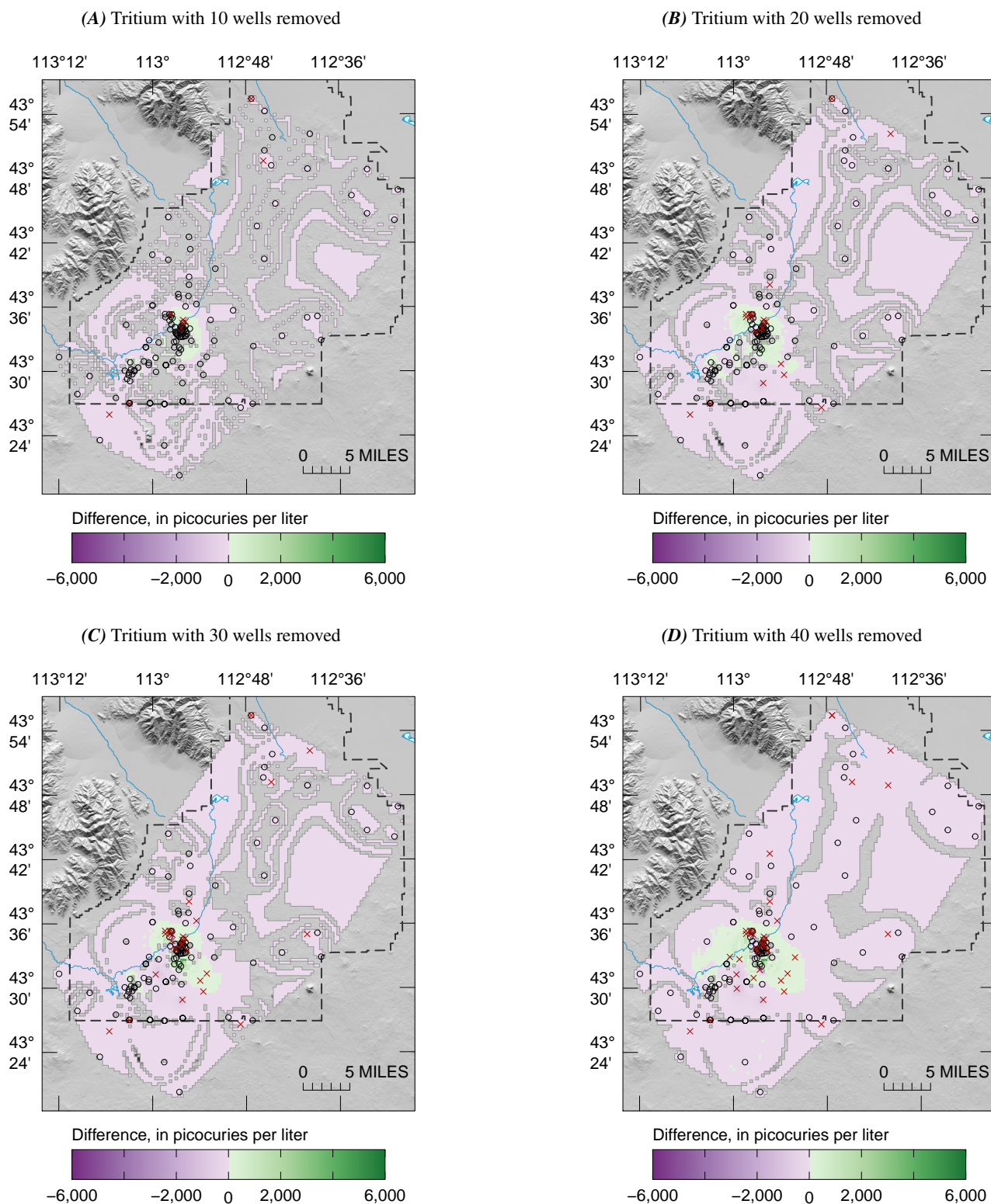


Figure 11.9. Difference between the kriged prediction surfaces of tritium using the existing and reduced monitoring network after removing (A) 10, (B) 20, (C) 30, (D) 40, and (E) 50 optimally selected wells.

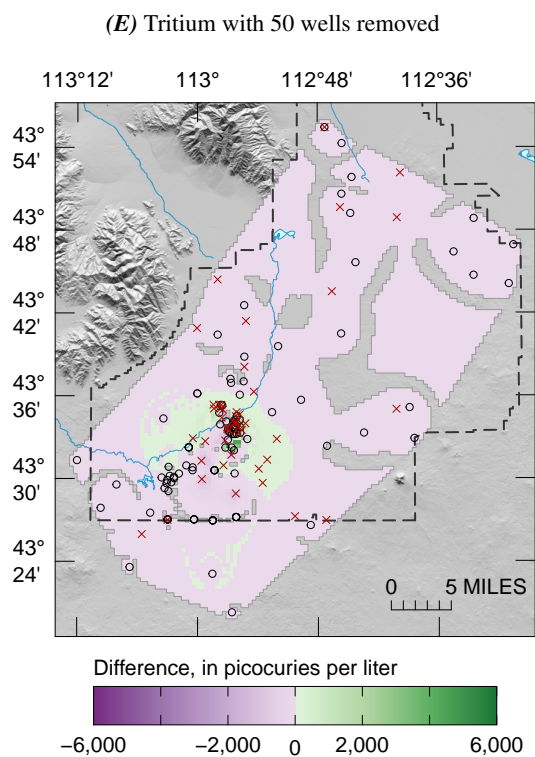


Figure 11.9. —Continued

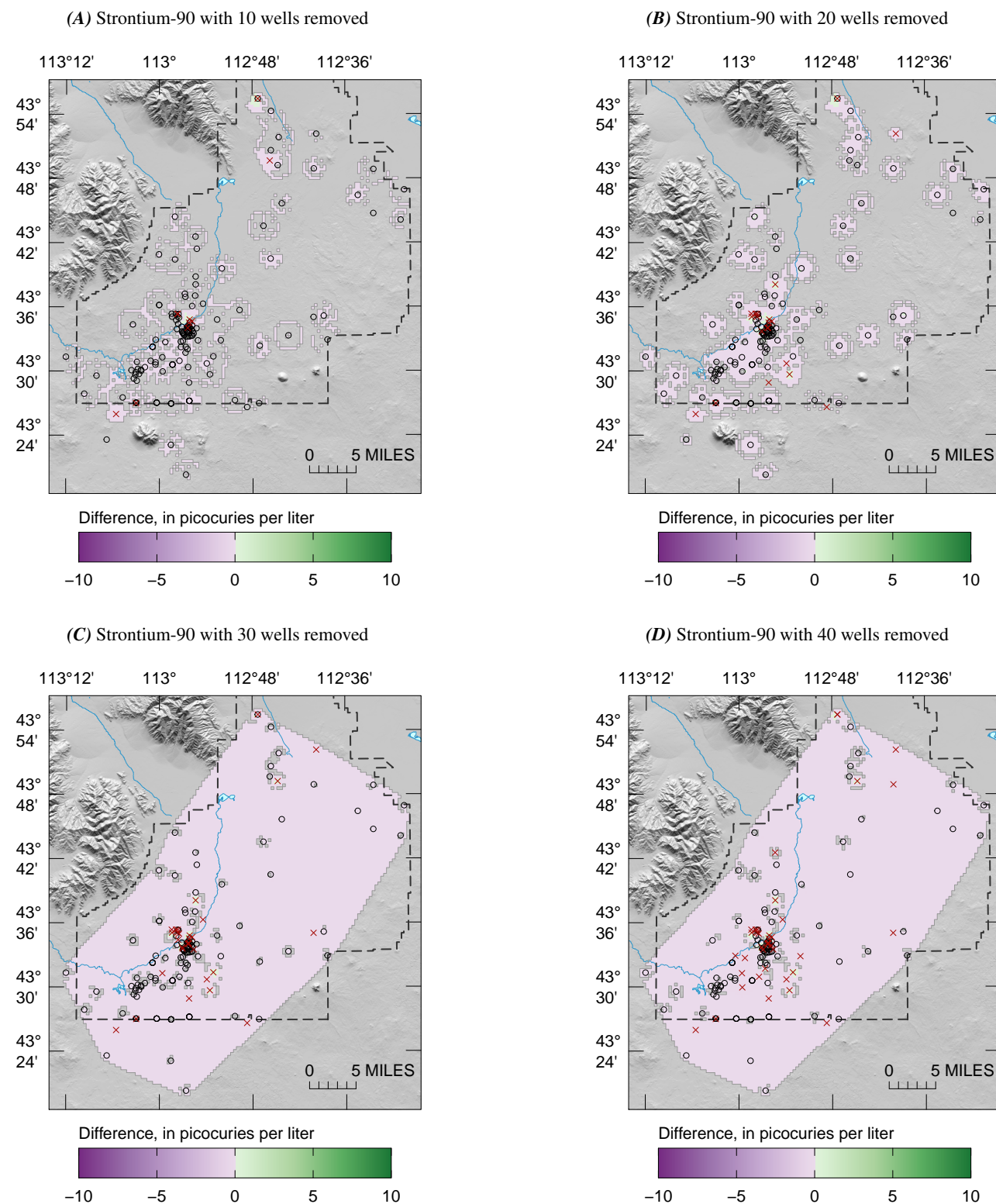


Figure 11.10. Difference between the kriged prediction surfaces of strontium-90 using the existing and reduced monitoring network after removing (A) 10, (B) 20, (C) 30, (D) 40, and (E) 50 optimally selected wells.

(E) Strontium-90 with 50 wells removed

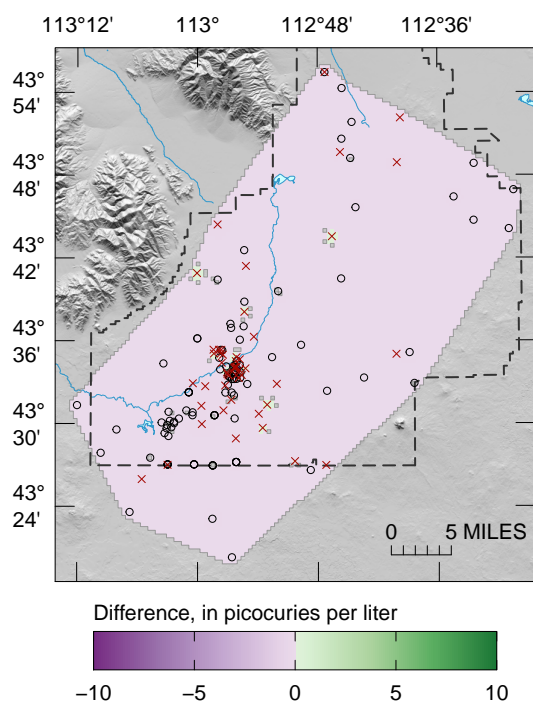


Figure 11.10. —Continued